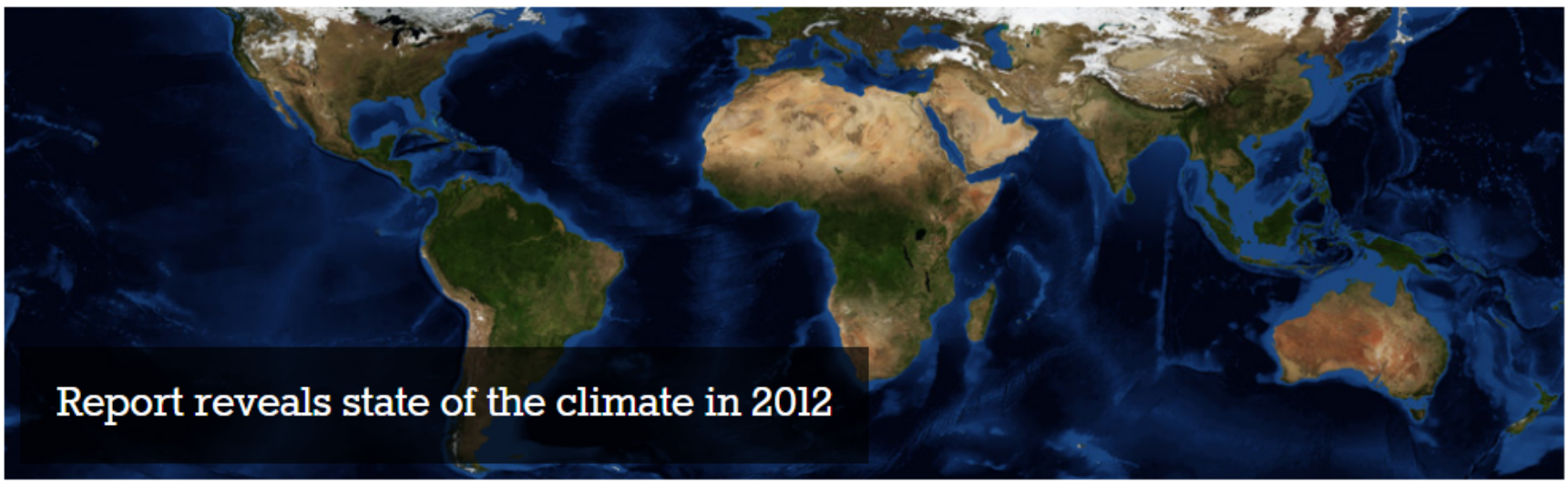

7 August 2013 - A new study compiled by hundreds of scientists from around the world gives a comprehensive update on the state of the global climate in 2012.

The report's findings, announced by the National Oceanic and Atmospheric Administration (NOAA) last night, detail evidence from a wide range of key indicators.

Met Office scientists played a key role in compiling the report, authoring several sections.

Kate Willett, a Senior Scientist at the Met Office and a lead editor of the report, said: "The State of the Climate 2012 report provides a broad range of measurements which build a picture that is consistent with a warming climate.

"By looking at everything from ocean heat content to Arctic sea ice extent to temperatures in the stratosphere, we can provide a clear picture of the changes we are seeing."

The study, which is published in the *Bulletin of the American Meteorological Society*, highlights numerous observations from around 43 different indicators.

Some key findings for indicators in 2012:

· **Warm temperatures continue near Earth's surface:** Four major independent datasets show 2012 among the 10 warmest years since records began in the late 19th century. The Arctic continued to warm at about twice the rate compared with lower latitudes.

· **Cool temperature trends continue in Earth's lower stratosphere (about 6-10 miles up):** The average stratospheric temperature for 2012 was record to near-record cold, depending on the dataset used. Greenhouse gases tend to cool the stratosphere while warming the near-surface layers.

· **The Arctic continues to warm:** In the Arctic, minimum sea ice extent in September and Northern Hemisphere snow cover extent in June each reached new record lows. June snow cover extent is now declining at a faster rate (-17.6% per decade) than September sea ice extent (-13.0% per decade).

· **Arctic sea ice extent reaches record low:** Arctic sea ice minimum extent (1.32 million square miles, September 16) was the lowest since satellite records began in 1979. This is 18 percent lower than the previous record low extent of 1.61 million square miles that occurred in 2007.

· **Sea Surface Temperatures:** After a 30-year period from 1970 to 1999 of rising global sea surface temperatures the period 2000-2012 had little trend. Part of this difference is linked to the prevalence of La Niña-like conditions during the 21st century. Nonetheless, four independent datasets indicate that the globally-averaged sea surface temperature for 2012 was among the 11 warmest on record.

· **Sea level reaches record high:** Following sharp decreases in global sea level in the first half of 2011 that were linked to the effects of La Niña, sea levels rebounded to reach record highs in 2012.

You can view the full report online .

Contact information

Met Office Press Office: **+44 (0)1392 886655**

E-mail: Press Office

Met Office Customer Centre: **01392 885680**

If you're outside the UK: **+44 1392 885680**

Last updated: 8 August 2013